

**APPARATUS FOR CONSERVING VAPOR IN A
CARBON DIOXIDE DRY CLEANING SYSTEM**

Abstract of the Invention

A method for conserving carbon dioxide vapor in a carbon dioxide dry cleaning system employing a liquid carbon dioxide cleaning solution to clean articles, where the method includes removing carbon dioxide vapor from a wash tank to a vapor tank, storing the carbon dioxide vapor in the vapor tank; and charging the wash tank with carbon dioxide vapor from the vapor tank. The method may be performed as part of a wash cycle that includes filling the wash tank with cleaning solution, washing articles to be cleaned in the wash tank, and emptying the cleaning solution out of the wash tank. An apparatus may also be employed for conserving carbon dioxide vapor in a carbon dioxide dry cleaning system employing a liquid carbon dioxide cleaning solution to clean articles, where the apparatus includes a wash tank for contacting the articles to be cleaned with the liquid carbon dioxide cleaning solution, a working tank for storing liquid carbon dioxide cleaning solution, a vapor tank for storing carbon dioxide vapor, a first piping system providing fluid communication between the wash tank and the vapor tank, where the first piping system includes a first line and a first valve residing in the first line, and a second piping system providing fluid communication between the working tank and the wash tank. Methods and apparatus for collecting liquid carbon dioxide in a collecting tank are also provided.